

**To:** Wisniewski, Patti-Kay[Wisniewski.Patti-Kay@epa.gov]; Kelly, Jack (R3 Phila.)(Kelly.Jack@epa.gov); Caporale, Cynthia[Caporale.Cynthia@epa.gov]; Warner, Sue[Warner.Sue@epa.gov]; Campagna, Philip[Campagna.Philip@epa.gov]  
**Cc:** Werner, Lora[Werner.Lora@epa.gov]; Casillas, Laura[Casillas.Laura@epa.gov]; Matlock, Dennis[Matlock.Dennis@epa.gov]; Markiewicz, Karl[Markiewicz.Karl@epa.gov]; Linden, melissa[linden.melissa@epa.gov]; Larry Cseh[LCseh@cdc.gov]; Mickunas, Dave[Mickunas.Dave@epa.gov]  
**From:** binetti, victoria  
**Sent:** Sun 1/12/2014 5:07:24 PM  
**Subject:** RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol

I have a call in to American Water, waiting for reply.--Vicky

-----Original Message-----

**From:** Wisniewski, Patti-Kay  
**Sent:** Sunday, January 12, 2014 12:06 PM  
**To:** Kelly, Jack (R3 Phila.); Caporale, Cynthia; Warner, Sue; Campagna, Philip; binetti, victoria  
**Cc:** Werner, Lora; Casillas, Laura; Matlock, Dennis; Markiewicz, Karl; Linden, melissa; Larry Cseh; Mickunas, Dave  
**Subject:** RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Jack,  
How about if WPD determines method in use by WVAW first. They have not asked for EPA support specifically. Sounds as though Civil Support is using the DuPont method and not the Eastman method, but who knows.

Vicky stated she would contact American, so perhaps she can find an answer first.

Patti Kay

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**From:** Kelly, Jack (R3 Phila.)  
**Sent:** Sunday, January 12, 2014 11:59 AM  
**To:** Caporale, Cynthia; Warner, Sue; Campagna, Philip; Wisniewski, Patti-Kay; binetti, victoria  
**Cc:** Werner, Lora; Casillas, Laura; Matlock, Dennis; Markiewicz, Karl; Linden, melissa; Larry Cseh; Mickunas, Dave  
**Subject:** Fw: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Karl heard back from Dupont. This looks promising. Maybe we should try to get him on a call with the American Water guy(s).

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**From:** Markiewicz, Karl  
**Sent:** Sunday, January 12, 2014 10:35:43 AM  
**To:** Kelly, Jack (R3 Phila.)  
**Subject:** Fw: Eastman Crude MCHM - 4-methylcyclohexanemethanol

FYI

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**From:** Markiewicz, Karl  
**Sent:** Sunday, January 12, 2014 10:02:49 AM  
**To:** Mickunas, Dave  
**Cc:** lkw9@cdc.gov; **Ex. 6 - Personal Privacy**  
**Subject:** Fw: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Hello Dave,

Here's the latest email from  (Dupont). I've copied him on the email so you 2 can start

communications.

Sincerely,

Karl

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From: [REDACTED] **Ex. 6 - Personal Privacy**  
Sent: Sunday, January 12, 2014 9:44:42 AM  
To: Markiewicz, Karl  
Subject: RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Hi Karl,

I haven't had time to do an official MDL study, but component peaks have about a 2:1 s/n at the 0.01 ppm level, and matrix spikes and duplicates all look real good. To give ourselves a little leeway however, I have set our reporting limit as 0.1 ppm.

Levels in the feed to the water company plant are down at that level. The water exiting the plant is still between 0.5 and 1 ppm. It's hard to explain to some folks how activated carbon equilibria works. We're getting there.

[REDACTED] **Ex. 6 - Personal Privacy**

From: Markiewicz, Karl [mailto:Markiewicz.Karl@epa.gov]  
Sent: Sunday, January 12, 2014 7:08 AM  
To: [REDACTED] **Ex. 6 - Personal Privacy**  
Cc: lkw9@cdc.gov  
Subject: Re: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Thank [REDACTED] **Ex. 6 - Personal Privacy**!

Not problem - I know how hectic these responses are. I've seen emails indicating that the DL for MCHM is 10 ppb.

You guys are doing a great job and we appreciate all the support and effort.

Sincerely,

Karl

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From: [REDACTED] **Ex. 6 - Personal Privacy**  
**Ex. 6 - Personal Privacy**  
Sent: Sunday, January 12, 2014 3:31:01 AM  
To: Markiewicz, Karl  
Cc: lkw9@cdc.gov<mailto:lkw9@cdc.gov>  
Subject: RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Hello Karl,

I started this reply once before and got pulled away. At this point I have had little time for anything other than monitoring of the primary component 4-methylcyclohexanemethanol. Besides setting up additional

GC's in my lab, preparing standards for contract lab evaluation, preparing odor profile standards for multiple groups, and trying to keep up with the ever increasing sample load, I have also been assisting three National Guard Mobile units in setting up the analysis on their equipment (with limited success).

Some air monitoring samples on activated charcoal would have been nice to look at. Reports coming to me as my lab techs rotate in and out, are that recent rains have almost completely eliminated the odor downtown. A lost opportunity to study some dispersion patterns???

Ex. 6 - Personal Privacy (another chemist at the site) and I have had much the same suspicion as to the various odors.

Maybe once the dust settles I can go back and rehash the data.

**Ex. 6 - Personal Privacy**

Sr. Chemist

Dupont Chemicals and Fluoroproducts

Dupont Belle Plant  
901 W Dupont Ave.  
Belle, WV 25015

**Ex. 6 - Personal Privacy**

From: Markiewicz, Karl [mailto:Markiewicz.Karl@epa.gov]  
Sent: Friday, January 10, 2014 2:42 PM  
To: Ex. 6 - Personal Privacy  
Cc: kw9@cdc.gov; Markiewicz, Karl [mailto:kw9@cdc.gov]  
Subject: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Hello Ex. 6 - Personal Privacy

I'm a toxicologist with CDC/ATSDR and involved with the WV spill response. I was given your email from a member of the response team within EPA.

I understand that you've developed the analytical standard and methods for 4-methylcyclohexanemethanol and maybe for all the components of the mixture. Can you provide detection limits for 4-methylcyclohexanemethanol and others if available?

We believe the licorice odor is related to the 4-(MethoxyMethyl) cyclohexaneMethanol( 98955-27-2) in the mixture. Its my understanding that as time has progressed the licorice odor has diminished and a sweet (alcohol?) odor is now detectable. Do you think the ether has dissipated and now the alcohols are predominated the odor profile?

Eastman Crude MCHM

Weight %	Component	CAS Registry No.
68 . 89%	4-methylcyclohexanemethanol	34885-03-5
4 . 22%	4-(methoxymethyl)cyclohexanemethanol	98955-27-2
4 . 10%	water	7732-18-5
5%	methyl4-methylcyclohexanecarboxylate	51181-40-9

1%	dimethyl I,4-cyclohexanedicarboxylate	94-60-0
1%	methanol	67-56-1
1-2%	I,4-cyclohexanedimethanol	105-08-8

Sincerely,

Karl

Karl V. Markiewicz PhD  
Senior Toxicologist  
DHHS/CDC/ATSDR  
MailStop: 3HS00  
1650 Arch Street  
Philadelphia, PA 19103  
215-814-3149 (office)  
kvm4@cdc.gov<mailto:kvm4@cdc.gov>

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